

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 29505P WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/005991	International filing date (day/month/year) 06 June 2003 (06.06.2003)	Priority date (day/month/year) 09 December 2002 (09.12.2002)
International Patent Classification (IPC) or national classification and IPC G02B 21/00, 21/06		
Applicant EUROPÄISCHES LABORATORIUM FÜR MOLEKULARBIOLOGIE (EMBL)		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of _____ sheets.
3. This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 23 April 2004 (23.04.2004)	Date of completion of this report 11 November 2004 (11.11.2004)
Name and mailing address of the IPEA/EP  Facsimile No.	Authorized officer  Telephone No.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/005991

## I. Basis of the report

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
 pages \_\_\_\_\_ 1-21 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages \_\_\_\_\_ 1-24 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the drawings:  
 pages \_\_\_\_\_ 1/4-4/4 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

### 5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP 03/05991

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-15, 20-23	YES
	Claims	16-19, 24	NO
Inventive step (IS)	Claims	7, 10, 12-14, 20	YES
	Claims	1-6, 8, 9, 11, 15-19, 21-24	NO
Industrial applicability (IA)	Claims	1-24	YES
	Claims		NO

### 2. Citations and explanations

1. The following documents (D) are listed in the search report. The same numbering will be used throughout the procedure:

D1: US-A-5570228

D2: Optics Express, Optical Society Of America,  
Washington, DC, US (28-01-2002), 10(2), 145-154

D3: US-A-5903781.

#### 2. Novelty

The present application does not meet the requirements of PCT Article 33(2) because the subject matter of claims 16-19 and 24 is not novel:

- 2.1 Document D1 (column 3, line 18, to column 5, line 59; column 7, line 9, to column 8, line 54; column 9, lines 14-67; figure 2) discloses:

- a microscope (figure 2) with an illumination light path (15) and a detection light path (17), wherein
  - a focusing arrangement (28) for producing a linear object illumination area expanded in

- the direction of an illumination axis of the illumination light path (column 5, lines 53-59) is provided in the illumination light path (15, figure 2);
- the detection device (26, figure 2) of the detection light path (17, figure 2) is approximately orthogonal to the linear object illumination area (column 7, lines 38-43); and
  - at least one movement arrangement (14, 18, figure 2) is provided for producing a relative movement between the linear object-illumination region (15) and the object (21) to be examined (concerns claims 16 and 24).

The subject matter of independent claims 16 and 24 is therefore not novel (PCT Article 33(2)).

2.2 Document D1 also discloses:

the subjects of claims 17, 18 and 19, which are therefore not novel (PCT Article 33(2)).

3. Inventive step

Claims 1-6, 8, 9, 11, 15 and 21-23 of the present application do not involve an inventive step (PCT Article 33(3)).

3.1 Document D3 (column 3, line 10, to column 6, line 51; figures 1, 4 and 5) is considered the closest prior art and discloses a:

- microscope (figure 1) with an illumination light

path (1) and a detection light path (7),  
wherein

- a detection device (2, figure 1) of the one detection light path is approximately orthogonal to the flat object-illumination region (1, figure 1; column 4, lines 46-65), and
- at least one movement arrangement (21, figure 1) is provided to produce a relative movement (column 3, lines 57-65) between the flat object-illumination region (1) and an object to be examined (8) (concerns claim 1).

The subject matter of claim 1 differs from the above in that every illumination light path has a focusing arrangement for producing an object illumination region which is expanded in the direction of an illumination axis of the illumination light path.

The problem to be solved by the present invention is therefore understood to be that of positioning the object and the object illumination optical system on a horizontal surface and thereby improving stability and simplifying the optical illuminating system.

A person skilled in the art wishing to solve this problem would find in the relevant literature on microscopes document D2, which describes the use of a mirror-free horizontal optical object illumination system (figure 1; pages 148-149).

A person skilled in the art would clearly use this technology known in the field of microscopes and combine the simplified object illumination system

from document D1 with document D2 and in doing so arrive at the solution to the problem of interest.

3.2 Dependent claims 2-6, 8, 9, 11 and 15 concern minor structural changes to the microscope according to claim 1, which are in part disclosed in document D2 or D3 and would be straightforward to a person skilled in the art, especially since the resulting advantages are readily foreseeable. As a result, the subject matter of claims 2-6, 8, 9, 11 and 15 does not involve an inventive step.

3.3 Dependent claims 21-23 concern minor structural modifications of the microscope according to claim 16, which would be straightforward to a person skilled in the art, especially since the resulting advantages are readily foreseeable. Consequently, the subject matter of claims 21-23 does not involve an inventive step.

#### 4. Clarity

4.1 Although claims 1, 16 and 24 are drafted as separate, independent claims, they seem in fact to relate to the same subject matter, the only apparent, minor, difference being in the definition of the subject matter for which protection is sought. The claims are therefore not concise.

Moreover, at least some of the independent claims would seem not to contain features essential to the invention.

For the above reason the claims do not meet the requirements of PCT Article 6.